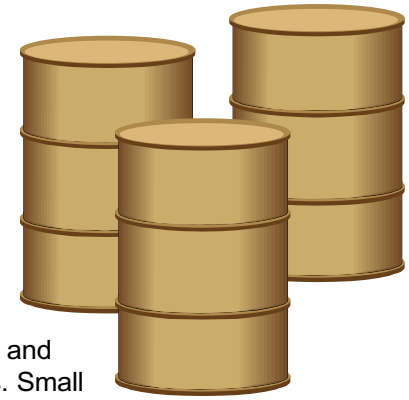
July 1998 Vol. 7, No. 2

DPPEA FOCUS
WASTE MINIMIZATION

Hazardous Waste Management

How to survive a waste compliance inspection

The Hazardous Waste Inspection



All hazardous waste generators and treatment storage and disposal (TSD) facilities are subject to the compliance evaluation inspection (CEI). This inspection evaluates the facility for all applicable hazardous waste regulations. The usual frequency of a CEI is once a year for TSD facilities and large quantity generators (>2,200 pounds per month) and as needed for complaint investigations. Small quantity generators typically are inspected once every five years. Periodically, an inspection will be conducted in conjunction with a federal or state initiative for particular industry-types (e.g., wood treaters and boiler/furnace inspections) or for regulations (e.g., land disposal restrictions and non-notifiers).

Inspections can be announced or unannounced. Typical inspection equipment includes cameras, sampling equipment, and recording devices. Photographs are taken and samples are collected to document violations. All records relating to hazardous waste must be kept on-site for at least three years.

Following are specific items that inspectors typically will investigate during an inspection.

Hazardous Waste Manifest (40 CFR 262.20-23)
All hazardous wastes shipped off-site must be accompanied by a hazardous waste manifest. During an inspection, hazardous waste manifests will be reviewed, usually from the date of the last inspection, to determine if they have been completed correctly. If a transporter completes the manifest, the generator is still liable for what is entered. Common problems and violations found during a manifest review include:

- Failure to use a unique document number and/or using letters instead of numbers.
- Failure to use appropriate waste codes.
- Failure to describe the waste appropriately.
- Failure to have a returned copy of the manifest signed by the TSD facility.
- Failure to provide “land ban” notifications/certifications.
- Failure to manifest precious metals (40CFR 266) shipped to a reclaimer.

Training Records (40 CFR 265.16)
It is the facility’s responsibility to determine what employees need to know to ensure the facility’s compliance with the regulations and to ensure they will not harm themselves. Because there are so many

see **Inspection,** page 5

INSIDE this issue

Taking the hazard out of hazardous waste

Improper waste management can be extremely expensive and can result in higher waste disposal fees, inflated consumer prices, and increased health care costs for employees.

Here are a few ways to better manage hazardous waste:

- *Substitution of raw materials.* Replacing a raw material that generates hazardous wastes during processing with one that creates little or none can substantially reduce the volume of waste produced.
- *Manufacturing process changes.* These changes consist of either eliminating a process that produces a hazardous waste or altering a process to minimize waste generation.
- *Substitution of products* also can be effective. For example, water-based solvents can be used in place of chlorinated solvents for surface cleaning and coating operations.
- *Source separation (or segregation)* keeps hazardous waste from contaminating nonhazardous waste through management practices that prevent the wastes from coming into contact with each other. An example is safely storing hazardous products and containers to avoid spills and leaks. In addition to reducing disposal costs, source separation reduces handling and transportation costs.
- *Recycling (also known as recovery and reuse)* is the process of removing reusable elements from waste and returning them to productive use. Hazardous wastes often can be recycled. For hazardous waste management, the most common hazardous waste recycling activities are solvent reclamation and metal recovery.

Solvent Recycling

The most common method of solvent recycling is distillation. Solvents can be recycled on- or off-site. Off-site recycling involves sending solvent wastes to a commercial facility that distills the waste into a usable product. On-site recycling occurs at the facility and requires the use of a solvent recycling unit to distill the waste solvents. Distillation on-site may be a more cost-effective alternative for generators of waste solvents because the units are simple to operate and maintain, and the average payback period is one to two years. The distillation of spent high-grade solvents can potentially eliminate the need to purchase low-grade solvent for use in primary operations and cleanup. During distillation, the spent solvent is heated to its boiling point, the pure solvent vapors rise and reliquify in the condenser, then the pure solvent falls into a collection vessel. Impurities left behind are called “still bottoms.”

According to state regulations, the quantity of spent hazardous waste solvents sent off-site must be counted in the amount of hazardous waste generated by the company.

With on-site recycling, only the raw product used and the hazardous waste still bottoms are counted. The recycled solvents are not counted again. Hazardous waste spent solvents must be handled as hazardous waste until they are recycled. If the solvent is stored for a period of time exceeding 90 days, a storage permit must be obtained.

Still bottoms from the distillation of solvents listed in 40 CFR 261.31 with waste code numbers F001 through F005 are hazardous. The solvent is a hazardous waste only when it exhibits a characteristic of hazardous waste, such as ignitability, reactivity, corrosivity, or toxicity.

Metal Recovery

Many companies generate spent materials containing Resource Conservation and Recovery Act (RCRA) regulated metals such as arsenic, barium, cadmium, mercury, chromium, lead, selenium, and silver. Many metal-containing waste mixtures can be recycled through metal recovery vendors. For example, generators can divert their metal sludges to smelter feed as a replacement for raw materials in smelting operations. The generator must be able to prove that the waste is being used for its metal content and that the concentration of metals in their waste is similar to that normally used in the production process. The concentration of metals in the end product also has to be similar to that of products on the market that were produced using raw materials.

Hazardous waste regulations specify that if the above materials are used or reused as ingredients in an industrial process to make a product, used or reused as effective substitutes for commercial products, or returned to the original process from which they were generated, they are exempt from hazardous waste regulation. This exemption applies to materials that are not reclaimed, placed on the land in a manner constituting disposal, used to produce products applied to the land, burned for energy recovery, used to produce a fuel or contained in fuels, or accumulated speculatively. Also, owners and operators of smelting, melting, and refining furnaces that process hazardous waste solely for metal recovery are conditionally exempt from the full industrial furnace regulations. They still must provide a one-time written notice, sample and analyze the hazardous waste and other feedstocks, and maintain records at the facility for at least three years.

Don't get BURNED! by open burning rule

Hopefully you won't see the phrase "Don't Get Burned" too often. Violators of North Carolina's open burning rule are required to place ads in their local newspapers under that heading to educate the public and prevent further violations. The ads warn readers that they can receive stiff penalties for illegal burning of trash, tires, paper, building materials, wire, plastics, asphalt shingles, oils, paints, and household chemicals. More than half of the Division of Air Quality's (DAQ) penalty cases involve open burning violations. Penalties average about $500 for first-time violators and up to $10,000 for serious cases.

Smoke from burning debris can contain many pollutants that can cause serious health problems and damage to the environment. While a trash pile burns, eight percent or more of the material contents ends up as air pollution. The smoke and its pollutants can be a great nuisance to neighbors, especially for those who suffer from respiratory illnesses such as asthma or emphysema.

Homeowners can burn yard trimmings, except for logs and stumps, if it is allowed under local ordinances, if no public pickup is available, and if it is not a nuisance. Landowners may burn vegetation to clear land or clean storm damage, but they should first check with the Division of Air Quality for permission. People seeking to burn also may need a permit from the Division of Forest Resources. A free brochure describing what is allowed and prohibited under state rules can be obtained by calling (919) 733-3340.

Think before you burn. Take a look at what you have decided to burn. Is there something you can do with the waste before you burn it? Many materials being burned can be reused or recycled through municipal collection programs. Yard trimmings can be composted for reuse, and newspapers, plastics, and cardboard can be recycled. Household cleaners, motor oil, and paints can be recycled at household hazardous waste collection sites. By making a few sensible choices you can reduce the amount of throw-away material generated in the first place. For more information on your local programs to manage yard waste and other recyclables, contact DPPEA at (800) 763-0136.

Managing absorbent material

Management of Absorbent Materials
Materials used to absorb oils and grease include kitty litter, reusable mats, and clay. The policy of the Solid Waste Section of the North Carolina Division of Waste Management is that absorbents containing oil are banned from North Carolina solid waste landfills. However, absorbent wastes created from clean up of incidental spills such as petroleum products at service stations are not banned. An incidental spill is a small volume leak or spill that can be quickly cleaned. Larger volumes should be handled through waste oil dealers or hazardous waste service companies.

Hazardous or Nonhazardous?
Absorbent material used to clean spills of listed hazardous solvents, such as trichloroethylene, is considered a hazardous waste and must be managed as such. If absorbents are used to manage a "characteristic" hazardous waste spill and the mixture subsequently does not exhibit one or more of the four hazardous waste characteristics, it would not need to be managed as hazardous waste. If a *de minimus* spill of hazardous waste occurs (for example, an insignificant non-routine release) the absorbent used to clean the spill may not be considered hazardous waste unless the release is a P or U listed waste (P and U lists are in 40 CFR 261.133 (e) and (f), respectively). If the absorbent is not a hazardous waste, the local landfill or waste disposal service companies can provide information about disposal options. However, using absorbents for continual or regular leaks of hazardous wastes is not a good management practice as they would require management as hazardous waste.

To reduce absorbent generation:

- use drip pans to prevent spills.
- repair equipment leaks as soon as possible.
- use nonhazardous chemicals when possible.
- keep lids closed on containers to prevent spills or evaporation.
- investigate reusable or recyclable absorbents.
- investigate microbial absorbents.

For more information about managing absorbent materials, contact DPPEA at (800) 736-0136.

DPPEA announces "BORDERS" project

Objective is to help companies lower regulatory burden

Is your company on the borderline to lower regulatory requirements? Most companies know their current classification under the Resource Conservation and Recovery Act (RCRA) or Clean Air Act (CAA). But do you know how close your company is to a regulatory border or classification change? In most cases, achieving a lower regulatory status brings a facility a number of advantages such as reduced regulatory burden, compliance fees, inspections, and environmental liability.

The tables below display typical regulatory categories and associated requirements/costs and should not be used for compliance purposes.

As they pursue pollution prevention, environmental management systems, and continual quality improvement initiatives, many companies are finding they are nearing or crossing regulatory boundaries in the right direction. Ten percent of the companies competing for the 1997 Governor's Award for Excellence in Waste Reduction reported a positive regulatory status change.

The Division of Pollution Prevention and Environmental Assistance has initiated a "BORDERS" project and currently is seeking to identify companies that may be near a regulatory border. DPPEA will be reaching out to companies who appear to be good candidates for lowering their regulatory status.

The objective of this project is to use pollution prevention to help North Carolina companies get and stay on the lowest and least burdensome side of a regulatory boundary. Participating facilities will receive free, non-regulatory technical assistance to help lower waste generation and hopefully will achieve a less regulated status. Currently, the project is focusing on hazardous waste generators and facilities with air permits. However, DPPEA is eager to work with facilities to help reduce other regulatory requirements.

To become a participant in the BORDERS project, or to obtain more information about the project, call Edythe McKinney at 1-800-829-4841 or Sharron Rogers at 1-800-763-0136. We appreciate knowing about your ideas, problems, regulatory frustrations, or the technical or financial limitations that may be keeping your company borderline.

Table 1: Hazardous Waste Compliance Requirement Highlights

Requirement	LQG >2,200 lb./mo.	SQG 220 - 200 lb./mo.	CESQG <220 lb./mo.	No Hazardous Waste Generated
Manifesting	Yes	Yes	No	No
Waste Analysis	Yes	Yes	Yes	No
Biennial Report	Yes	No	No	No
Annual Fees	$500 + $.50/ton	$25	$0	$0

Table 2: Air Quality Compliance Requirement Highlights

Requirement	Title V (Large Source	Synthetic Minor (Medium Source)	Small Source	No Regulated Air Emissions
Annual Inventory	Yes	No	No	None
Frequent Records	Yes	Yes	Yes	None
Semiannual Report	Yes	Yes	No	None
Quarterly Report	Yes	No	No	None
Annual Fees	~$8500[1]	$1500	$250	$0

[1] $5691 + $16.32/ton of pollutants

Inspection, from page 1

different types of processes and jobs related to hazardous waste management, no approved training courses are specified in the regulations. Training programs must be kept up-to-date, and *all training records must be kept on-site until the facility closes.* Common errors found in training programs include:

- Failure to maintain training records.
- Job descriptions are not specific to hazardous waste duties.
- Failure to train personnel on the contents of the contingency plan and emergency procedures.
- Failure to train emergency procedures.
- Failure to conduct annual training (large quantity generators or TSD).

Inspection Log
(40 CFR 265.174 and 15A NCAC 13A .0010(l))
Facilities are required to inspect the areas where hazardous wastes are stored at least weekly. At minimum, these inspections site leaks and corrosion. A log, into which these inspections are recorded, must be maintained on-site for at least three years. Although there is no specific form for an inspection log, it should include specific items the facility is looking for, specific areas to be inspected, the signature of the inspector, and the date of inspection.

Contingency Plan (40 CFR 265.50 - 56 Subpart D)
The contingency plan describes the response procedures for any hazardous waste related emergency event. Contingency plans must be updated immediately if the regulations change, the plan fails in an emergency, the facility changes, emergency coordinators change, or emergency equipment changes.

Waste Determination (40 CFR 262.11)
Generators are solely responsible for the accurate characterization of their hazardous waste and its proper disposal. The most common errors made by generators in making waste determinations are:

- Assuming materials are not hazardous wastes (such as recycled materials, shop towels, filters, solder, adhesives and cleaners).
- Indicating a waste is hazardous when it is not.
- Improper on-site handling resulting in improper off-site disposal as nonhazardous waste.
- Disposal of containers that contained acutely hazardous wastes which have not been triple rinsed.

Facility Walk-through
In a facility walk-through, the facility's generation areas are evaluated to determine that hazardous wastes are being handled correctly (40 CFR 265.31). Satellite accumulation areas (40 CFR 262.34) allow generators to keep partially filled drums on-site beyond the 90 day accumulation period. Storage area requirements (40 CFR 265 170-171) include proper labeling and dating hazardous waste containers, ensuring containers are closed, providing proper aisle space, and conducting weekly inspections to evaluate the condition of containers, signage, and safety requirements. Some of the most common storage violations found during inspections include:

- Accumulating more than 55 gallons at a satellite accumulation point for longer than three days.
- Dates exceeding 90 days accumulation period for LQG.
- Inadequate or no aisle space.
- Hazardous wastes not clearly marked with the words "Hazardous Waste" on the container contents at all times including the satellite accumulation point.
- Start accumulation dates not recorded on container.
- Labels not visible.
- Use of improper containers, or containers that are in poor condition. When shipping hazardous waste in containers, they must meet DOT performance standards.
- Containers claimed to be empty still contain waste.
- Drum or container not closed.

Inspectors also may look for other paperwork items during an inspection including annual reports and waste minimization program documentation. If any violations are noted during an inspection the facility will receive a follow-up inspection. If a facility is issued a Notice of Violation (NOV) and the violations have not been corrected, a compliance order with a penalty will be issued.

For more information about hazardous waste management, call John Kirby with the Division of Waste Management, at (919) 733-2178 ext. 238 or e-mail KirbyJW@wastenot.ehnr.state.nc.us.

FOCUS: Waste Minimization is published by the divisions of Pollution Prevention and Environmental Assistance, Waste Management, Air Quality, and Water Quality of the North Carolina Department of Environment and Natural Resources (DENR). It is intended to provide North Carolina industries and other interested parties with current information concerning proper waste management and waste reduction. The information contained in this publication is believed to be accurate and reliable. However, the application of this information is at the reader's own risk. Mention of products and services in the publication does not constitute an endorsement by the State of North Carolina. The information contained in this publication may be cited freely.

If you have comments, waste minimization case summaries, resource information, or questions for the next issue of the *FOCUS* newsletter, call Norma Murphy at (919) 715-6513, fax (919) 715-6794, email *Norma_Murphy@p2pays.org*, or write the North Carolina Division of Pollution Prevention and Environmental Assistance (DPPEA), P.O. Box 29569, Raleigh, NC 27626-9569.

State of North Carolina: James B. Hunt, Jr., Governor; Wayne McDevitt, DENR Secretary; Gary Hunt, DPPEA Director.

Multimedia News Update

Air Quality News

Cleaner air in the forecast

Residents of the Charlotte, Winston-Salem, Greensboro, and the Raleigh-Durham metropolitan areas may be noticing changes in the weather reports by local television news programs and newspapers. That is because news media are includng air pollution forecasts this summer with regular weather reports.

The new color-coded forecasts provide whether levels of ozone, the primary pollutant in smog, are likely to be good (green), moderate (yellow), unhealthy for sensitive groups (orange), or generally unhealthy (red). On high ozone days, forecasts also suggest actions to take, such as limiting outdoor activities, avoiding strenuous exercise or driving less.

The Division of Air Quality (DAQ) developed the ozone forecasting system to help comply with the new ozone standard and to protect public health and the environment. Part of the DAQ's "N.C. Air Awareness Program," it is a voluntary effort to increase public awareness about air pollution, its causes and ways to prevent it. The program's first full "ozone season" was in 1997 in cooperation with local air-pollution control agencies and businesses in Mecklenburg and Forsyth counties. This summer, the DAQ is expanding the program to the Triangle area as well as broader parts of the Triad and Charlotte metropolitan areas.

The program helps curb smog levels through pollution forecasts, media alerts, and notifications to business coalitions in the three metro areas. Coalition members voluntarily agree to help reduce emissions of smog-forming pollutants on high ozone days. For example, participants encourage or offer incentives to their employees to car pool, ride buses to work, eat lunch in the office, or take other actions that reduce driving.

High ozone levels generally occur on hot, sunny days with stagnant air when pollutants such as nitrogen oxides and hydrocarbons "cook" in the lower atmosphere.

The Air Awareness Program plans to forecast daily ozone levels through September. Meteorologists issue the forecasts at 3 p.m. for the following day. Forecasts are sent to local news media and business coalition members and posted on the division's web site at *http://daq.nc.state.us*. The division also has a toll-free hotline (1-888-RU4NCAIR) to obtain the forecasts or learn how to join the business coalitions in the Charlotte, Triad, and Triangle areas.

Solid Waste News

State falling short of solid waste reduction goal

North Carolina is failing to make progress toward its goal of 40 percent solid waste reduction by 2001.

Meeting the goal, measured on a per capita basis, would reduce the state's dependence on landfill disposal and would be achieved through the recovery of a wealth of commodities available in the waste stream.

From a per capita disposal rate of 1.08 tons during the baseline year of fiscal year 1991-92, North Carolina's disposal rate has risen to 1.10 tons during fiscal year 1996-97 (1.19 tons per capita if waste from Hurricane Fran is included). North Carolina would have a .65 tons per capita disposal rate by 2001 if it were to meet its goal.

Although, the state's generators will have to increase their source reduction and recycling efforts to meet the goal, it will be difficult to overcome the effects of a strong economy on waste generation. Strong recycling efforts to date, as well as a healthy recycling infrastructure, have allowed the state's overall recycling rate to grow to an estimated 25 percent, preventing any potential increase in disposed tonnage. With tipping fees remaining fairly low at a statewide average of $26.75/ton, the incentives to reduce more waste are not as strong as they may be in other areas of the country.

There is more at stake, although, than filling the new crop of Sub-title D mega-landfills. According to a recent Environmental Protection Agency analysis, raising the national recycling rate from 27 percent to 35 percent could reduce greenhouse gas emissions by 11.4 million metric tons of carbon dioxide equivalent (MCTE). If Americans would reduce their generated waste by five percent, greenhouse gases could be cut another 10.2 million MCTE.

Multimedia News, continued from page 6

Water Quality News

Basinwide planning being developed

The Division of Water Quality (DWQ) has been developing an approach to basinwide water quality planning since the mid 1980s. The first plan was established for the Neuse River basin in February 1993, and the issuance of National Pollutant Discharge Elimination System (NPDES) permits began in April 1993. By August 1998, the first round of plans for all 17 river basins in North Carolina will be completed. Plans for the past two other river basins, Yadkin and Broad, have been developed and will go through public comment the beginning of 1998.

Through basinwide planning, the DWQ hopes to:

1) identify and restore full use to impaired waters
2) identify and protect highly valued resource waters
3) manage problem pollutants within each basin through the development of consistent and effective long-range management stratagies that both protect the quality and intended uses of North Carolina's surface waters and allow for sound economic planning and reasonable growth.

To assist DWQ with accomplishing these goals, total maximum daily loads (TMDLs) are being established. TMDLs are the total pollutant loading, from point and non-point sources, which a stream can assimilate while maintaining its assigned water quality classification and standards.

As a result of these efforts, existing NPDES permits and eventually pretreatment permits could be modified. More importantly, the basinwide approach could lead to more innovative management strategies, including agency banking, pollution trading among permitted dischargers, industrial recruitment mapping and consolidation of wastewater discharges. For more information contact the Division of Water Quality at (919) 733-5083.

Hazardous Waste News

Treating hazardous waste without a permit

Q. Help! I'm a hazardous waste generator. Can I treat my hazardous waste without a permit?

A. Yes. But, as with most regulations, there are some constraints.

The preamble to the final small quantity generator regulations promulgated on March 24, 1986, in the Federal Register states that

> *"...no permitting would be required if a generator chooses to treat their hazardous waste in the generator's accumulation tanks or containers in conformance with the requirements of Section 262.34 and I or J of Part 265."*

For example, suppose a company would like to use a water evaporator to reduce the volume of hazardous waste currently generated. The wastewater, a characteristic hazardous waste with chrome in excess of TCLP regulatory limits, is hardpiped to the water evaporator after a finishing process. Under the hazardous waste regulations, this constitutes generator treatment in an accumulation tank, and therefore would not be prohibited provided the process is completed within 90 days and applicable tank requirements are met.

So, let's examine the initial question, again. If a hazardous waste is generated, it can be treated under any of the following conditions:

1. without a permit in an accumulation tank or container only in conformance with 40 CFR 262.34 and Subparts I or J of Part 265, codified at 15A NCAC 13A .0107 and .0110, respectively, or
2. with a permit in conformance with the requirements of Subparts I or J of Part 264, or
3. during the period of interim status in conformance with the requirements of Subparts I or J of Part 265.

For more information regarding generator treatment of hazardous waste, please contact the North Carolina Hazardous Waste Section at (919) 733-2178.

Calendar of Events

Conference/Workshop	Location	Date (1998)	Contact
North Carolina Pretreatment Workshop	Asheville	August 17-18	Kim Talbert (919) 947-1719
Air Toxics Implementation Workshop	Research Triangle Park	August 25-27	Lorie Lawson (301) 652-1900
Making Dollars and Sense throught Water Use Efficiency	Asheville	August 28	Jennifer Ball (828) 259-5958
Small Business Conference, "Cutting Red Tape"	Raleigh	September 8	Edythe McKinney (800) 829-4841
Carolina's Environmental and Safety Conference	Charlotte	September 9-11	Lucy LeGrand (704) 378-1325
Composting in the Southeast	Athens, Ga.	September 21-27	K.C. Das, (706) 542-8842
National Pollution Prevention Week		September 21 - 27	Michele Russo, (202) 466-7272
American Association of Textile Chemists and Colorists' (AATCC) 1998 International Conference & Exhibition	Philadelphia, Pennsylvania	September 22-25	AATCC (919) 549-8141
North Carolina American Water Works Association Industrial Conference	Greensboro	September 30	John Burke (336) 249-1480
SWANA Waste Conference	Charlotte	October 26-29	Sara Perks (301) 585-2898

DPPEA-98-16. 2,000 copies of this public document were printed on recycled paper at a cost of $244.75, or $0.12 per copy.

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DPPEA

Vol. 7, No. 2, July 1998
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